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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,891	12/31/2003	Timothy W. Foley	FOT-10002/44	8907
25006 7590 03/22/2007 GIFFORD, KRASS, SPRINKLE, ANDERSON & CITKOWSKI, P.C PO BOX 7021 TROY, MI 48007-7021			EXAMINER JACKSON, BRANDON LEE	
			ART UNIT	PAPER NUMBER
			3772	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary

Application No.

10/749,891

Applicant(s)

FOLEY, TIMOTHY W.

Examiner

Brandon Jackson

Art Unit

3772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 21-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20, 25 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to amendments/arguments filed on 11/07/2006. New claims 25 and 26 have been entered. Claims 1-20 and 25-26 are currently pending in the application.

Response to Arguments

Applicant's arguments with respect to claim 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 25 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation "said force transmitting layer extends between a first molar on one side of the arch of the user and a first molar on an opposite side of the arch of the user" is indefinite because examiner is unable to decipher which two molars the transmitting layer extends between.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-20 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kallestad et al. (US Patent 3,943,924). Kallestad discloses a mouthpiece (11) to protect the arch of a user (fig. 5) comprising a U-shaped channel (col. 2, lines 56-63), a force absorbing outer layer (7) with an outer wall, a force absorbing inner layer (5) with an inner wall, a lower wall (fig. 1) connecting the outer wall with the inner wall and covering the occlusal surface (fig. 5) of the teeth in the arch of the user and the inner wall only includes the force absorbing inner and outer layer (5, 7), and a force transmitting layer (9) disposed between the inner layer (5) and outer layer (7). The force transmitting layer (9) is generally planar preformed strip (fig. 1) and includes an arrangement of fibers of a resinous material (col. 3, lines 45-47) for force to be distributed along, because a force transmitting layer inherently distributes force over

Art Unit: 3772

the length of the structure. Also, the mouthpiece (11) comprises a palate protective wall (15) extending radially from the inner wall. The force absorbing inner and outer layers (5, 7) are made of dental materials having resilient, moldable, and settable properties (col. 3, lines 39-51). The force absorbing inner layer (5) inherently must have additives that allow it to be rigid at room temperature and moldable at a temperature greater than room temperature (col. 3, lines 39-44). Kallestad fails to disclose a force transmitting layer transversely across the buccal surface of the teeth. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to move the force transmitting layer to the buccal side of the mouthpiece, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

With respect to claims 6 and 16, Kallestad fails to disclose a gas-liberating chemical additive that liberates air bubbles. However, Applicant discloses that various types of chemical foaming agents are known in the art (p. 9, lines 14-16 of specification). Therefore, it would have been obvious to one having ordinary skill in the art to have provided the mouthpiece of Kallestad with an inner layer having a chemical foaming agent, which Applicant admits is well known, to reduce the density of the mouthpiece.

With respect to claims 8-10, 13, 17, and 18 Kallestad fails to disclose that the force transmitting layer includes a plurality of longitudinally extending fibers disposed in a resinous matrix or the material of the fibers and resin. However, a thorough reading of the specification provides no criticality to the materials making up the force

Art Unit: 3772

transmitting layer (9). At the time the invention was made, it would have been an obvious matter of design choice to one of ordinary skill in the art to have made the force transmitting layer of fibers disposed in a resinous matrix or any other selected material, because Applicant has not disclosed that such a material provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Kallestad's mouthpiece and Applicant's invention to perform equally well with either the force transmitting layer used by Kallestad, or the claimed resinous matrix because both materials would perform the same function of transmitting force between the outer and inner force absorbing layers and protecting the teeth. Therefore, it would have been *prima facie* obvious to modify Kallestad to obtain the invention as specified in the claims because such a modification would have been considered a mere design consideration which fails to patentably distinguish over the prior art.

With respect to claims 25-26, Kallestad discloses a mouthpiece (11), wherein said force transmitting layer (9) extends from between the second premolar or bicuspid and the first molar on one side to between the second premolar or bicuspid and the first molar on the opposite side (fig. 5) of the teeth of a human user. The mouthpiece (11) covers the incisal to the cervical portion of human teeth (fig. 2).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 3772

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon Jackson whose telephone number is (571)272-3414. The examiner can normally be reached on Monday - Friday 8-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Bianco can be reached on (571)272-4940. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3772

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brandon Jackson
Examiner
Art Unit 3772

BLJ


PATRICIA BIANCO
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3/17/07